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|--|-------------|----------------------|----------------------------|------------------------|
| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.        | CONFIRMATION NO.       |
| 10/579,065   | 05/11/2006  | Kazumi Naito         | Q78509                     | 3365                   |
| 23373 7590 08/09/2007<br>SUGHRUE MION, PLLC<br>2100 PENNSYLVANIA AVENUE, N.W.<br>SUITE 800<br>WASHINGTON, DC 20037 |             |                      | EXAMINER<br>THOMAS, ERIC W |                        |
|  |             |                      | ART UNIT<br>2831           | PAPER NUMBER           |
|  |             |                      | MAIL DATE<br>08/09/2007    | DELIVERY MODE<br>PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/579,065

**Applicant(s)**

NAITO, KAZUMI

**Examiner**

Eric Thomas

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/06</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Specification***

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Rejections - 35 USC § 102***

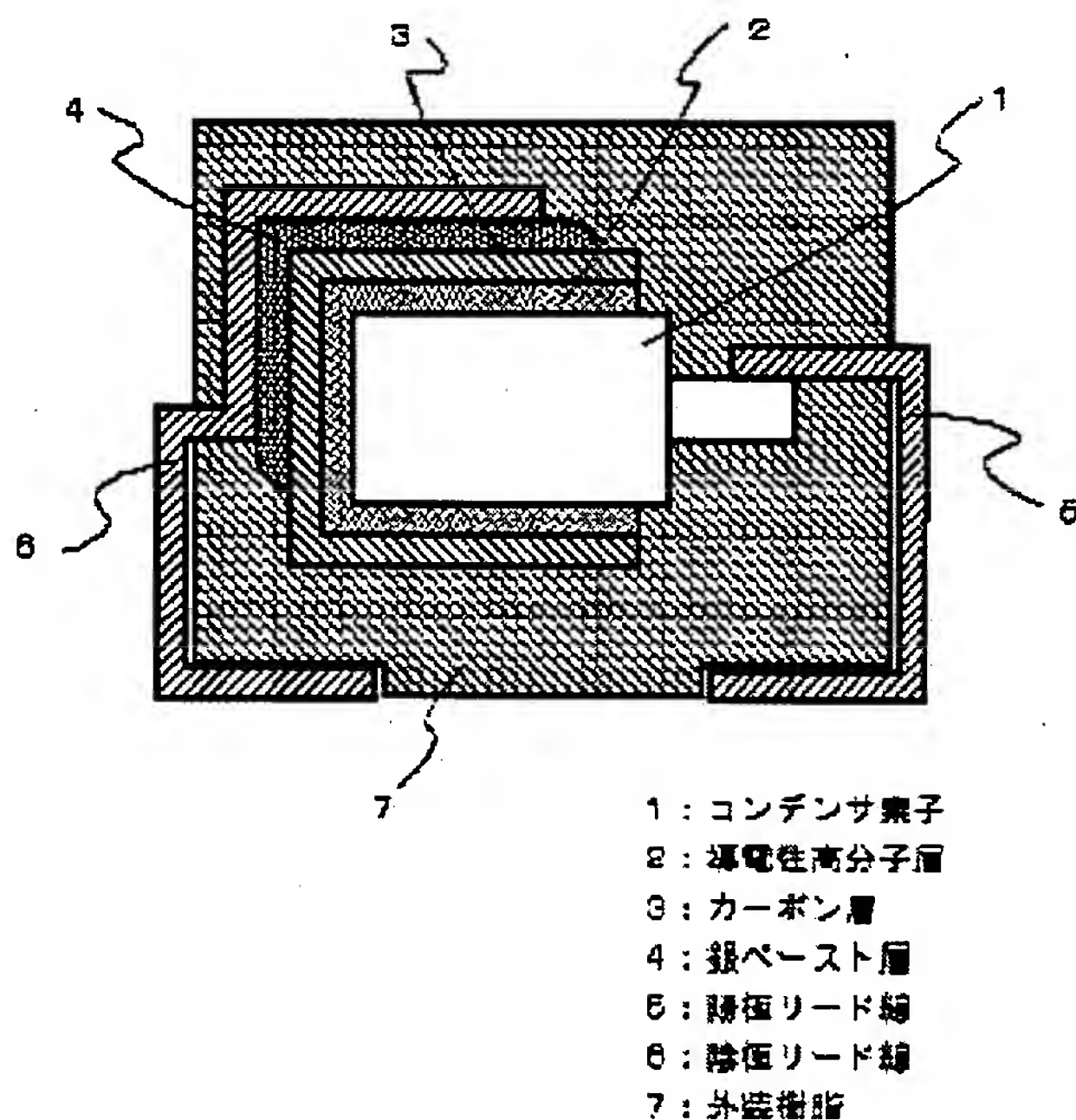
3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. Claims 1-2, 4, 7-11, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshihiko et al. (JP 2003-109850).



Regarding claim 1, Yoshihiko et al. disclose in fig. 1, a solid electrolyte capacitor comprising a jacketed capacitor element, the capacitor element being obtained by sequentially stacking a dielectric oxide film layer, a semiconductor layer (2) and an electrically conducting layer (3, 4) on a surface of a valve-acting metal sintered body connected with an anode lead, wherein the thickness of the semiconductor layer in the vicinity of the anode lead-connection point on the sintered body surface connected with an anode lead is 5  $\mu\text{m}$  or less.

Regarding claim 2, Yoshihiko et al. disclose the semiconductor layer is not provided in the vicinity of the anode lead-connection point on the sintered body surface connected with an anode lead.

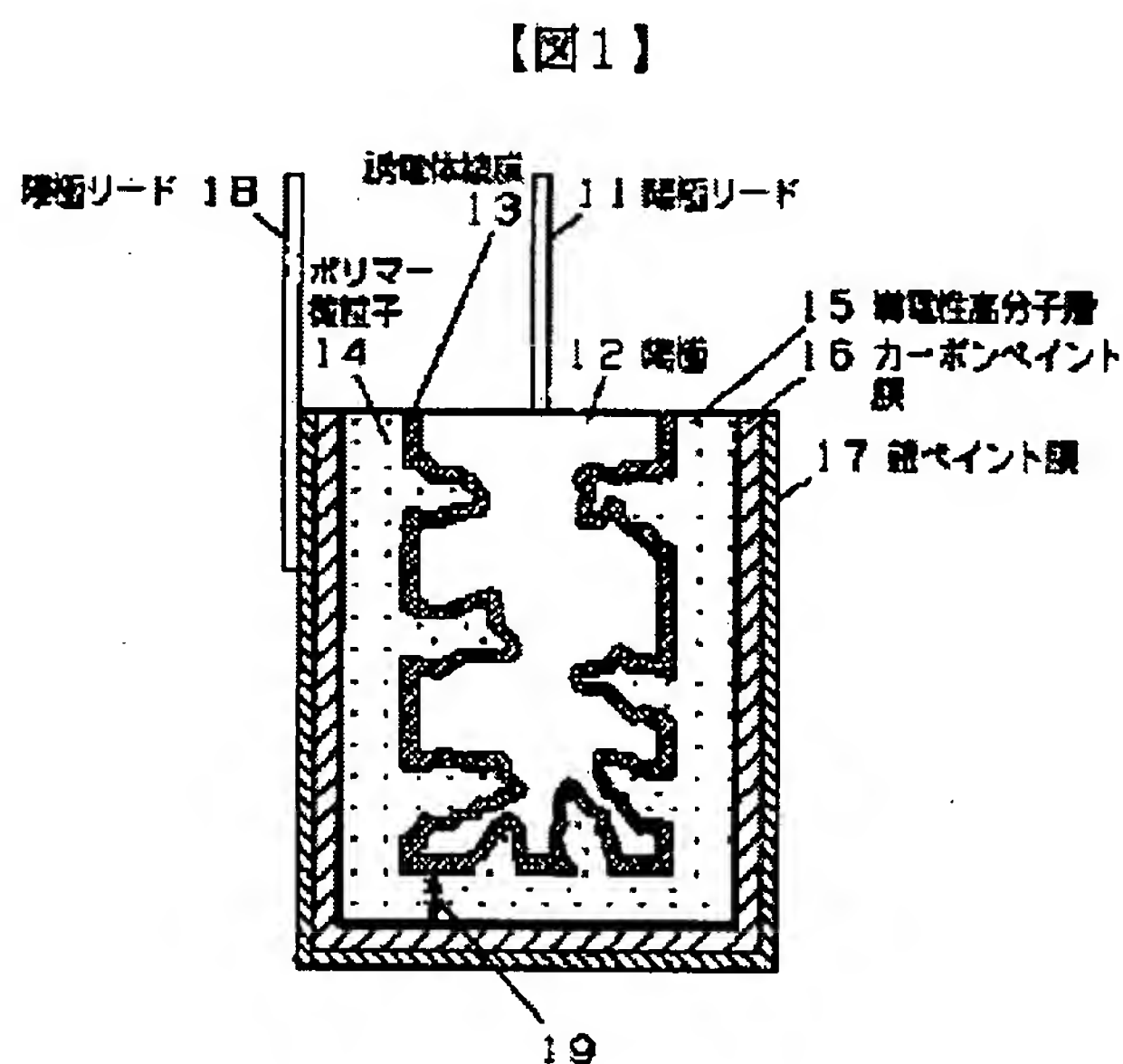
Regarding claim 4, Yoshihiko et al. disclose the valve-acting metal is tantalum (abstract).

Regarding claim 7, Yoshihiko et al. disclose the semiconductor layer is an organic semiconductor layer.

Regarding claims 8-11, Yoshihiko et al. disclose the electrically conducting polymer is poly(3,4-ethylenedioxythiophene) (see abstract).

Regarding claim 13, Yoshihiko et al. disclose the electrical conductivity of the semiconductor is from  $10^{-3}$  to  $10^3$  S/cm (see material).

5. Claims 1-4, 7-11, 13 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 11-067602 ('602).



'602 discloses in fig. 1, a solid electrolyte capacitor comprising a jacketed capacitor element, the capacitor element being obtained by sequentially stacking a dielectric oxide film layer, a semiconductor layer (15) and an electrically conducting

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layer (16) on a surface of a valve-acting metal sintered body connected with an anode lead, wherein the thickness of the semiconductor layer in the vicinity of the anode lead-connection point on the sintered body surface connected with an anode lead is 5  $\mu\text{m}$  or less.

Regarding claim 2, '602 discloses the semiconductor layer is not provided in the vicinity of the anode lead-connection point on the sintered body surface connected with an anode lead.

Regarding claim 3, '602 discloses the thickness of the semiconductor layer in the portion excluding the vicinity of the anode lead-connection point is 10-20 micrometers.

Regarding claim 4, '602 discloses the valve-acting metal is tantalum.

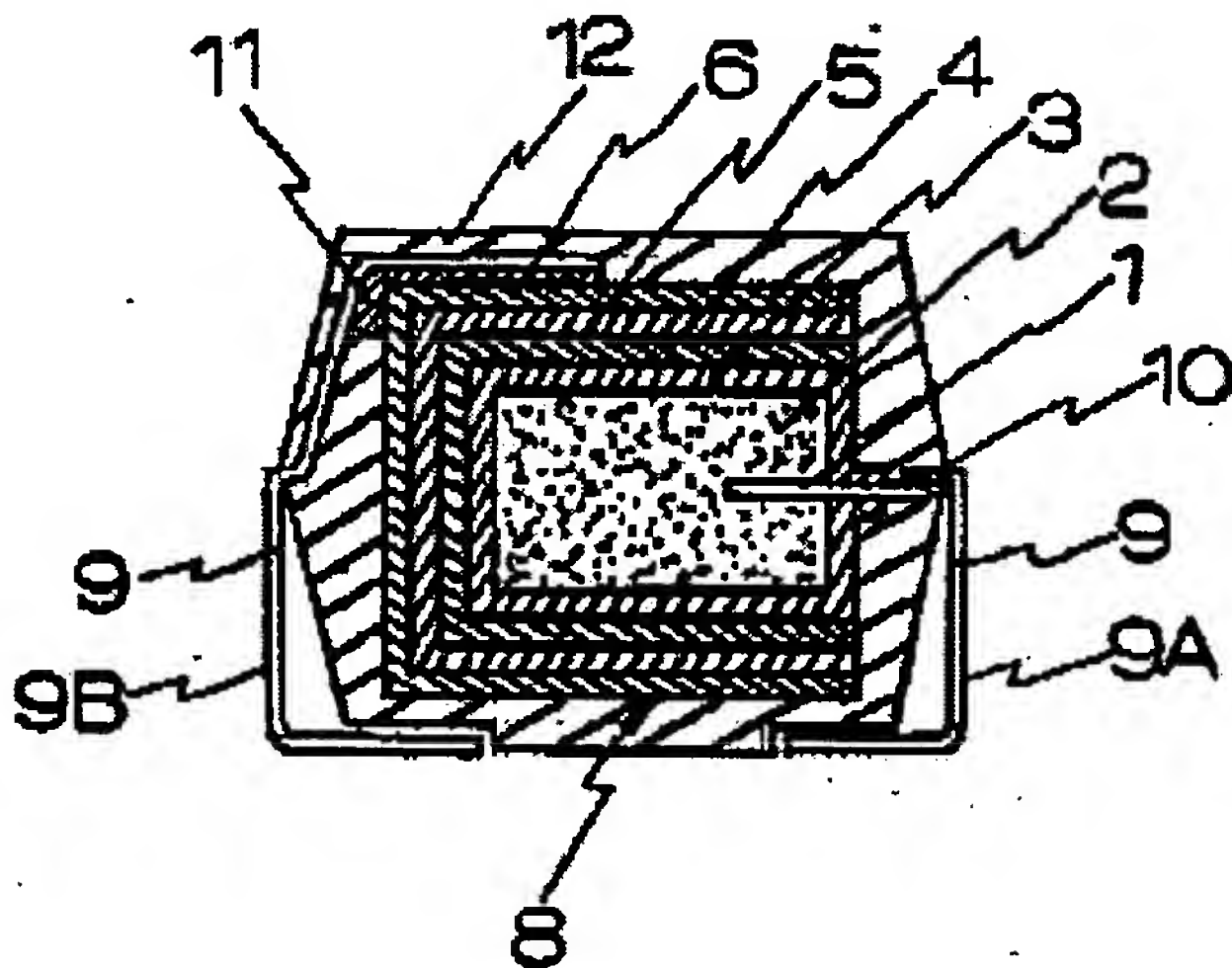
Regarding claim 7, '602 discloses the semiconductor layer is an organic semiconductor layer.

Regarding claims 8-11, '602 discloses the electrically conducting polymer is polypyrrole.

Regarding claim 13, '602 discloses the electrical conductivity of the semiconductor is from  $10^{-3}$  to  $10^3$  S/cm (see material).

6. Claims 1-2, 4, 7, 12-13 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 9-293647 ('647).





'647 discloses in fig. 1, a solid electrolyte capacitor comprising a jacketed capacitor element, the capacitor element being obtained by sequentially stacking a dielectric oxide film layer (3), a semiconductor layer (4) and an electrically conducting layer (5) on a surface of a valve-acting metal sintered body connected with an anode lead, wherein the thickness of the semiconductor layer in the vicinity of the anode lead-connection point on the sintered body surface connected with an anode lead is 5  $\mu\text{m}$  or less.

Regarding claim 2, '647 discloses the semiconductor layer is not provided in the vicinity of the anode lead-connection point on the sintered body surface connected with an anode lead.

Regarding claim 4, '647 discloses the valve-acting metal is tantalum (abstract).

Regarding claim 7, '647 discloses the semiconductor layer is an inorganic semiconductor layer (see abstract).

Regarding claim 12, '647 discloses the inorganic semiconductor is manganese dioxide (see abstract).

Regarding claim 13, '647 discloses the electrical conductivity of the semiconductor is from  $10^{-3}$  to  $10^3$  S/cm (manganese dioxide).

Regarding claim 14, '647 suggests that the capacitor is used in an electronic circuit.

Regarding claim 15, '647 suggests that the capacitor is used in an electronic device.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshihiko et al. (JP 2003-109850) in view of Omori et al. (JP 2003-213302).



Yoshihiko et al. disclose the claimed invention except for the valve acting metal or electrically conducting oxide is a niobium sintered body having a CV of 150,000  $\mu\text{F}$  V/g.

Omori et al. teach the use of a niobium powder sintered body having a CV of 150,000  $\mu\text{F}$  V/g.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to form the valve acting metal of Omori et al. in the capacitor of Yoshihiko, since such a modification would form an anode having a high CV value.

10. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshihiko et al. (JP 2003-109850) in view of Shiga et al. (WO 02/11932).

Yoshihiko et al. disclose the claimed invention except for the metal sintered body is a tantalum sintered body having a CV of 100,000  $\mu\text{F}$  V/g.

Shiga et al. teach the use of a niobium powder sintered body having a CV of 150,000  $\mu\text{F}$  V/g.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to form the valve acting metal of Shiga et al. in the capacitor of Yoshihiko, since such a modification would form an anode having a high CV value.

### ***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 6,352,564 – a solid electrolytic capacitor

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Thomas whose telephone number is 571-272-1985. The examiner can normally be reached on Monday - Friday 6:30 AM - 3:45 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 571-272-1984. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ewt

A handwritten signature in black ink, appearing to read 'E. Thomas', with a stylized flourish at the end.

Eric Thomas  
Primary Examiner – AU 2831